

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. Listing of Claims:

1. (currently amended) A ~~system~~ method for displaying and manipulating geographical information using World Wide Web technology, the steps comprising:

(a) retrieving geographical map images from a geographical map image storage database, said geographical map image storage database being dedicated to storing only a geographical raster map or satellite image therein, the geographical map images contain individual raster images of the map divided from the a whole map sheet or the satellite image, wherein said geographical map images are raster data stored in said geographical map image database;

(b) transforming the raster images into a wavelet data stream which is completely retransformable back to the original raster images;

(c) compressing the wavelet data ~~format~~ stream into the a compressed data stream so that said raster data of said geographical map images is separated into layers by use of said wavelet data stream and compressed before being transmitted over the a network;

(d) transmitting the compressed data stream over the network to a client side;

(e) decompressing the compressed data stream into the wavelet data stream;

(f) retransforming the wavelet data stream into the raster images;

(g) displaying the raster ~~image~~ images using one of either a spatial information and [[a]] map viewer or a spatial information and [[a]] map editor,

(h) analyzing a user requirement and sending the a suitable query to a spatial database;

(i) retrieving vector data ~~comprising of geographical elements from said spatial database for defining features of said geographical information;~~
~~(j) retrieving information from said spatial database other than geographical raster map images using metadata and geocode to identify coordinates for each of the coordinate related with the geographical elements on the vector data corresponding to data;~~ said other features of geographical information with said spatial database being dedicated to storing only vector data therein and being a database separate and distinct from said geographical map image database;

~~(k)~~ (j) editing ~~information or the~~ vector data using said spatial information and [[a]] map editor;

~~(l)~~ storing geographical information in a management information system;

~~(m)~~ (k) storing the edited vector data in said spatial database;

~~(n)~~ (l) storing the geographical raster map or satellite image in said geographical map image storage database; and

~~(o)~~ (m) ~~said image data being sent to display on~~ displaying raster data on the spatial information and map viewer at the client side under control of the spatial information and map viewer, ~~comprising the steps of:~~

~~(a)~~ ~~(i)~~ ~~displaying the spatial information raster map image data and map from said geographical map image database,~~

~~(b)~~ (n) zooming and/or panning the displayed image map of raster data; ~~receiving user input to zoom, pan the image allow image data to be zoomed and panned, and~~

~~(c)~~ (o) ~~receiving user input to query information from the spatial database and the MIS~~ rendering vector data from the spatial database to establish screen coordinates for said other features of geographical information; and

(p) displaying the vector data at the screen coordinates on the map displayed from said geographical map image database.

2. (currently amended) The method of claim 1, wherein the geographical map can be any form of a map including a registered satellite image.

3. (currently amended) The method of claim 1, wherein the wavelet transformation is used to transform said map into various resolution maps.

4. (currently amended) The method of claim ~~[[1]]~~ 3, wherein said various resolution maps can be filtered for ~~only~~ the desired resolution.

5. (original) The method of claim 4, wherein filtered maps are compressed by using compression algorithms.

6. (currently amended) The method of claim 5, wherein the compressed data of the filtered maps is transferred over the World Wide Web to the client by using an internet network.

7. (currently amended) The method of claim 6, wherein said compressed data is sent across the World Wide Web to a client process and decompressed into said wavelet data ~~format~~ stream.

8. (currently amended) The method of claim 7, wherein said wavelet format data stream is retransformed into a geographical map.

9. (canceled).

10. (currently amended) The method of claim 1, further comprising the steps of using a management information system (MIS) to send an inquiry wherein ~~the user requirement is sent as a query~~ to retrieve vector data from the spatial database under control of the spatial database, comprising the steps of:

- (a) storing the vector data to be retrieved;
- (b) storing map a geocode that links to the information in the MIS management information system to the spatial database;
- (c) sending the geocode to the MIS management information system for more information; and
- (d) sending the vector data to the spatial information and map viewer or the spatial information and map editor.

11. (currently amended) The method of claim 10, wherein the query is used in combination with metadata to search for required data.

12. (original) The method of claim 11, wherein metadata explains the meaning of data as well as its logical structure.

13. (original) The method of claim 11, wherein the required data is compressed and sent back to the client.

14. (currently amended) A system for displaying and manipulating geographical information using World Wide Web technology, wherein ~~the spatial information and the map editor is an apparatus for editing geographical information and map under control of the~~ and a spatial information and map editor, comprising ~~the steps of:~~

(a) ~~retrieving geographical map images from a geographical map image storage database, said geographical map image storage database being dedicated to storing only a geographical raster map or satellite image data therein, the geographical map images contain as raster data containing individual raster images of the geographical map divided from the a whole map sheet or the satellite image, wherein said geographical map images are raster data stored in said geographical map image database;~~

(b) means for transforming the raster images data of raster images into a wavelet data stream which is completely retransformable back to the original raster images;

(c) means for compressing the wavelet data format stream into the a compressed data stream so that said raster data of said geographical map images is separated into layers by use of said wavelet data stream and compressed before being transmitted over the a network;

(d) means for transmitting the compressed data stream over the network to a client side;

(e) means for decompressing the compressed data stream into the wavelet data stream;

(f) means for retransforming the wavelet data stream into raster data of the raster images;

(g) means for displaying the raster data of raster image images using one of either a spatial information and [[a]] map viewer or the spatial information and [[a]] map editor;

(h) means for analyzing a user requirement and sending the a suitable query to a spatial database;

(i) means for retrieving vector data comprising of geographical elements from said spatial database for defining features of said geographical information other than said raster images; (j) retrieving information from said spatial database using metadata and geocode to identify the coordinates of each of the coordinate related with the geographical elements of said features of said geographical information with on the vector data; data, said spatial database being dedicated to storing only the vector data therein and being a database separate and distinct from said geographical map image database;

~~(k)~~ (j) means for editing information or the vector data using
said spatial information and [[a]] map editor;

~~(l)~~ storing geographical information in a management
information system;

~~(m)~~ (k) means for storing the edited vector data in said spatial
database;

~~(n)~~ (l) means for storing the geographical raster map or satellite
image in said geographical map image storage database;

~~(o)~~ (m) means for displaying raster data the spatial information
and map from said geographical map image database on the spatial information and
map viewer; [[,]]

~~(p)~~ (o) means for receiving user input to zoom, and/or pan the
image displayed raster data; and

~~(q)~~ (p) receiving user input to query information from the spatial
database means for rendering vector data from the spatial database to provide
screen coordinates of said other features of geographical information;

~~(r)~~ editing geographical information on each element on the map;

~~(s)~~ editing geographical map;

~~(t) — storing changed information in the management information system;~~

~~(u) — storing changed vector data in the spatial database;~~

~~(v) — storing new geographical image map or registered satellite image in geographical map image storage; and~~

~~(w) — retrieving the spatial database.~~

15. (currently amended) A system for displaying and manipulating geographical information using World Wide Web technology, comprising:

(a) means for retrieving geographical map images from a geographical map image storage database, said geographical map image storage database being dedicated to storing only a geographical raster map or satellite image therein, the geographical map images contain individual raster images of the map divided from the a whole map sheet or the satellite image, wherein said geographical map images are raster data stored in said geographical map image database;

(b) means for transforming the raster images into a wavelet data stream which is completely retransformable ~~back~~ to the original raster images;

(c) means for compressing the wavelet data stream into the a compressed data stream so that said raster data of said geographical map images is separated into layers by use of said wavelet data stream and compressed before being transmitted over the a network;

(d) means for transmitting the compressed data stream over the network to the client side;

(e) means for decompressing the compressed data stream into the wavelet data stream;

(f) means for retransforming the wavelet data stream into the raster images;

(g) means for displaying the raster data of raster image images using one of either a spatial information and [[a]] map viewer or a spatial information and [[a]] map editor;

(h) means for analyzing a user requirement and sending the a suitable query to a spatial database;

(i) means for retrieving vector data ~~comprising of~~ geographical elements from said spatial database for defining other features of said geographical information other than said raster data; ~~(j) — means for retrieving information from said spatial database using metadata and geocode to identify and~~

provide coordinates of each of the coordinate-related with the geographical elements of said other features of said geographical information on the vector data, said spatial database being dedicated to storing only the vector data therein and being a database separate and distinct from said geographical map image database;

~~(k)~~ (j) means for editing information or the vector data using said spatial information and ~~[[a]]~~ map editor;

~~(l)~~ — means for storing geographical information in a management information system;

~~(m)~~ (k) means for storing the edited vector data in said spatial database; and

~~(n)~~ (l) means for storing the geographical raster map or satellite image in said geographical map image storage database; and

~~(o)~~ (m) means for displaying on sending said image data to display on the spatial information and map viewer at the client side under control of the spatial information and map viewer geographical information from both said spatial database and said geographical map image database[[:]] . comprising the steps of:

— ~~(a)~~ — displaying the spatial information and map;

~~_____ (b) _____ receiving user input to zoom, pan the image; and~~

~~_____ (c) _____ receiving user input to query information from the spatial database and the MIS.~~

16. (currently amended) The system of claim 15, wherein the geographical map can be any form of a map including a registered satellite image.

17. (currently amended) The system of claim 15, wherein ~~the~~ wavelet transformation is used to transform said map into various resolution maps.

18. (currently amended) The system of claim ~~45~~17, wherein said various resolution maps can be filtered for ~~only~~ a desired resolution.

19. (original) The system of claim 18; wherein filtered maps are compressed by using compression algorithms.

20. (currently amended) The system of claim 19, wherein the compressed data of the filtered maps is transferred over the World Wide Web to the client by using an internet network.

21. (currently amended) The system of claim 20, wherein said compressed data is sent across the World Wide Web to a client process and decompressed into said wavelet data ~~format~~ stream.

22. (currently amended) The system of claim 21, wherein said wavelet format data stream is retransformed into a geographical map.

23. (canceled).

24. (currently amended) The system of claim 15, further comprising a management information system for sending wherein user requirement is sent as a query to retrieve vector data from the spatial database under control of the spatial database and further comprising, comprising the steps of:

(a) means for storing the vector data;

(b) means for storing map the geocode to link that links to the information in the MIS management information system to the spatial database;

(c) means for sending the geocode to the MIS management information system for more information; and

(d) means for sending the vector data to the spatial information and map viewer or the spatial information and map editor.

25. (currently amended) The system of claim 24, wherein the query is used in combination with metadata to search for required data.

26. (original) The system of claim 25, wherein metadata explains the meaning of data as well as its logical structure.

27. (original) The system of claim 25, wherein the required data is compressed and sent back to the client.

28. (currently amended) A system for displaying and manipulating geographical information using World Wide Web technology, ~~wherein the spatial information and the map editor is an apparatus for editing geographical information and map under control of the~~ and a spatial information and map editor, comprising:

(a) means for retrieving geographical map images from a geographical map image storage database, said geographical map image storage database being dedicated to storing ~~only~~ a geographical raster map or satellite image therein, the geographical map images contain individual raster images of the map divided from ~~the~~ a whole map sheet or the satellite image, wherein said geographical map images are raster data stored in said geographical map image database;

(b) means for transforming the raster images into wavelet data stream which is completely retransformable back to the original raster images;

(c) means for compressing the wavelet data stream into ~~the~~ a compressed data stream so that said raster data of said geographical map images is separated into layers or use of said wavelet data stream and compressed before being transmitted over ~~the~~ a network;

(d) means for transmitting the compressed data stream over ~~[[a]]~~ the network to the client side;

(e) means for decompressing the compressed data stream into the wavelet data stream;

(f) means for retransforming the wavelet data stream into the raster images;

(g) means for displaying the raster data of raster image images using one of either a spatial information and ~~[[a]]~~ map viewer or the spatial information and ~~[[a]]~~ map editor;

(h) means for analyzing a user requirement and sending the a suitable query to a spatial database;

(i) means for retrieving vector data ~~comprising of~~ geographical elements from said spatial database~~[[;]]~~ for defining other features of said geographical information other than said raster data ~~(j) means for retrieving information from said spatial database using metadata and geocode to identify coordinates of each of the coordinate related with the geographical elements on the vector data, of said other features of said geographical information with said spatial database being dedicated to storing only vector data therein and being a database separate and distinct from said geographical map image database;~~

~~(k)~~ (j) means for editing ~~information or the~~ vector data using said spatial information and ~~[[a]]~~ map editor;

~~(l)~~ ~~means for storing geographical information in a management information system;~~

~~(m)~~ (k) means for storing the edited vector data in said spatial database;

~~(n)~~ (l) means for storing the geographical raster map or satellite image in said geographical map image storage database;

~~(o)~~ ~~(m)~~ ~~means for displaying the spatial information data and map;~~

~~(p)~~ (m) means for receiving user input to zoom, pan the image allow raster data to be zoomed and panned when displayed; and

~~(q)~~ (n) means for ~~receiving user input to query information from the spatial database~~ rendering vector data from the spatial database to provide screen coordinates of said other features of graphical information for display with said displayed raster data.